# Attachment A

**Attendence List**

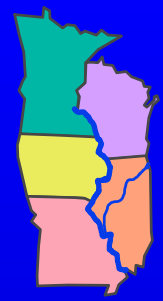
NECC Meeting 10 December 2002

Holiday Inn, Davenport, IA

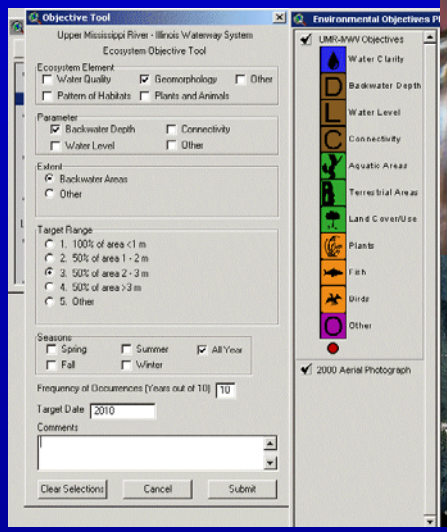
| Name | Affiliation | Address | Phone | E-mail |
|---|---|---|---|---|
| Ken Barr | CEMVR-PM-A | P.O. Box 2004, Clock Tower Bldg. Rock Island, IL 61204-2004 | 309.794.5349 | Kenneth.A.Barr@mvr02.usace.army.mil |
| Gretchen Benjamin | WI DNR | 3550 Mormon Coulee Rd. La Crosse, WI 54601 | 608.785.9982 | Gretchen.Benjamin@dnr.state.wi.us |
| Mark Beorkrem | Sierra Club/MRBA | P.O. Box 370 Morrisonville, IL 62546 | 314.882.8425 | beorkrem@ctitech.com |
| Bill Bertrand | IL DNR | P.O. Box 149, 2106 Southeast Third Aledo, IL 61231 | 309.582.5611 | bbertrand@dnrmail.state.il.us |
| Chris Brescia | MARC 2000 | 906 Olive Street, Ste. 1010 St. Louis, MO 63101 | 314.436.7303 | Bresh@aol.com |
| Ken Brummett | MODOC | 653 Clinic Rd. Hannibal MO 63401 | 573.248.2530 | brummk@mdc.state.mo.us |
| Bob Clevenstine | USFWS | 4469 48th Ave. Ct. Rock Island, IL 61201 | 309.793.5800 | Robert_Clevenstine@fws.gov |
| Julianna Cruz | U.S. Maratime Admin. | 2860 S. River Rd., Suite 185, Des Plaines, IL 60018 | 847.298.4838 | Julianna.Cruz@marad.dot.gov |
| Hank DeHaan | CEMVR-PM-M | P.O. Box 2004, Clock Tower Bldg. Rock Island, IL 61204-2004 | 309.794.5853 | Henry.C.DeHaan@mvr02.usace.army.mil |
| Jeffrey DeZellar | CEMVP-PM-A | 190 Fifth Street East St. Paul, MN 55101-1638 | 651.290.5433 | Jeffrey.T.DeZellar@mvp02.usace.army.mil |
| Jon Duyvejonck | UMRCC | 4469 48th Ave. Ct. Rock Island, IL 61201 | 309.793.5800 | Jon_Duyvejonck@fws.gov |
| Al Fenedick | USEPA | Mail Code: B-19J 77 West Jackson Boulevard Chicago, IL 60604 | 312.886.6872 | Fenedick.Al@epa.gov |
| Rich Fristik | CEMVR-PM-A | P.O. Box 2004, Clock Tower Bldg. Rock Island, IL 61204-2004 | 309.794.5308 | Richard.Fristik@mvr02.usace.army.mil |
| Brian Johnson | CEMVS-PM-EA | 1222 Spruce Street St. Louis, MO 63103-2833 | 314-331-8146 | Brian.L.Johnson@mvs02.usace.army.mil |
| Kevin Landwehr | CEMVR-ED-HH | P.O. Box 2004, Clock Tower Bldg. Rock Island, IL 61204-2004 | 309.794.5578 | Kevin.J.Landwehr@mvr02.usace.army.mil |
| Eric Laux | CEMVS-PM-EA | 1222 Spruce Street St. Louis, MO 63103-2833 | 314.331.8148 | eric.a.laux@mvs02.usace.army.mil |
| Ken Lubinski | USGS-UMESC | 575 Lester Ave Onalaska, WI 54650 | 608.783.7550 | Ken_lubinski@usgs.gov |
| Denny Lundberg | CEMVR-PM | P.O. Box 2004, Clock Tower Bldg. Rock Island, IL 61204-2004 | 309.794.5632 | Denny.A.Lundberg@mvr02.usace.army.mil |
| Catherine McCalvin | TNC | PO Box 305 Trempealeau, WI 54661-0305 | 608.534.6514 | CMcCalvin@tnc.org |
| Rick Moore | Isaac Walton League | 820 Brickl Rd, West Salem, WI 54669 | 651.649.1446 | rxmoore@iwla.org |
| Rick Nelson | USFWS | 4469 48th Ave. Ct. Rock Island, IL 61201 | 309.793.5800 | Richard_Nelson@fws.gov |
| Bernard Schonoff | IA DNR | 3390 Hwy. 22 Muscatine, IA 52761 | 563.263.5062 | fishiowa@muscanet.com |
| Scott Stuewe | ILDNR | One Natural Resources Way, Springfield, IL 62702 | 217.785.8263 | sstuewe@dnrmail.state.il.us |
| Dan Wilcox | CEMVP-PE-M | 190 Fifth Street East St. Paul, MN 55101-1638 | 612.290.5276 | Daniel.B.Wilcox@mvp02.usace.army.mil |

# Attachment B

# Upper Mississippi River - Illinois Waterway System Navigation Feasibility Study

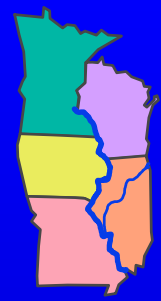


# Environmental Objectives Planning Workshops



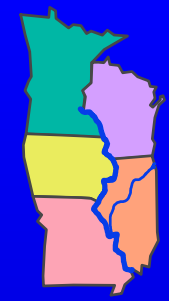

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Location | | Season | Frequency of Occurrence | Target Date | Comments |
| **Water Quality** | **Main Channel Area (5)** | **1** | *River Miles 155-157* | *TR=2* | *Spr - Sum* | *5* | *2007* | *This should be implementd along with increase in aquatic plants* |
| ***Comments/ Additions:*** | | | | | | | | |
| | *Back Water Area* | | *Worley Lake* | *NTU <20* | *Spr-Sum* | *5* | *2007* | *This should be implemetned along with #1* |
| | | | | | | | | |
| **Geomorphology** | | | | | | | | |
| *Comments/ Additions:* | | | | | | | | |

# Process for Establishing UMR-IWW Environmental Sustainability Alternatives



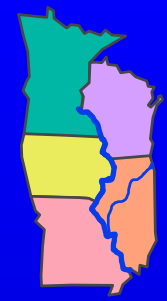
1. Establish Goals and Objectives
2. Determine Management Actions
3. Establish Costs and Expected Outcomes
4. Develop Env. Alternative Plans (NER Analysis)
5. Perform Integrated Alternatives and Tradeoff Analysis

# Environmental Workshop
# Primary Goals



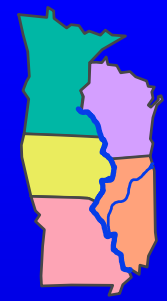
1. Identify and review existing/new env. objectives
2. Provide measurable objectives
3. Tie management actions to objectives
4. Initiate discussion on species level objectives
5. Gather info on evaluation tools and data

# Environmental Workshop
# What Happened?



- Workshops were well attended (30-40 participants)
- Facilitation structure was well met and successful
- Objectives and management action info was reviewed and captured

# Environmental Workshop
# What Happened?

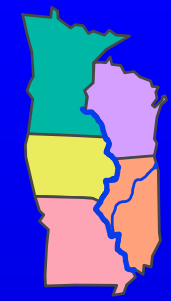


- Quantitative target ranges were usually noted with pool-wide objectives
- The ability to set species objectives was discussed
- Due to time constraints, additional info on evaluation tools and data was not gathered


EXIT


PRIORITIES - SCENARIO A
Sustainability
Plenary

# Attendance and Representation



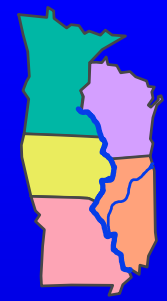
**Peoria: (30)** – USFWS (3); USACE (10); USDOT (1); ILDNR (8); INHS (1); ISWS (1); IDWR (1); MARC 2000 (1); MRBA (1); LTRMP (2); UMIMRA (1).

**St. Louis: (40)** – USFWS (4); USACE (11); USDOT (1); ILDNR (6); INHS (1); ISWS (1); IDWR (1); MDOC (5); MODNR (1); MARC 2000 (5); MRBA (1); LTRMP (2); UMIMRA (1); UMRCC (1); Sierra Club (1); Audubon (1); MO Coalition for the Env. (1); SIU (1).

**La Crosse: (38)** – USFWS (5); USACE (11); WIDNR (5); MNDNR (2); MODNR (1); Env. Defense (1); Sierra Club (1); Audubon (1); TNC (1); IWL (1); MARC 2000 (4); LTRMP (1); UMESC (3); Mississippi River Revival (1).

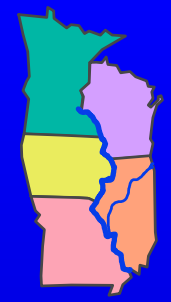
**Moline: (31) -** USFWS (4); USACE (8); USEPA (1); ILDNR (5); IADNR (3); MODNR (1); MODOC (1); Sierra Club (1); MRBA (1); UMRCC (1); Univ. of Miami (1); Audubon (1); IA Farm Bureau (1); UMIMRA (1); Quincy Park District (1).

# Environmental Workshop
# Setting Environmental Objectives



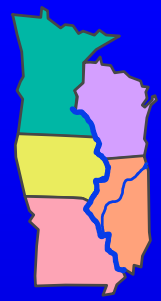
- Review, refine, and add to an environmental objective database
- Quantitative target ranges if possible
- Identify both site-specific and pool-wide objectives

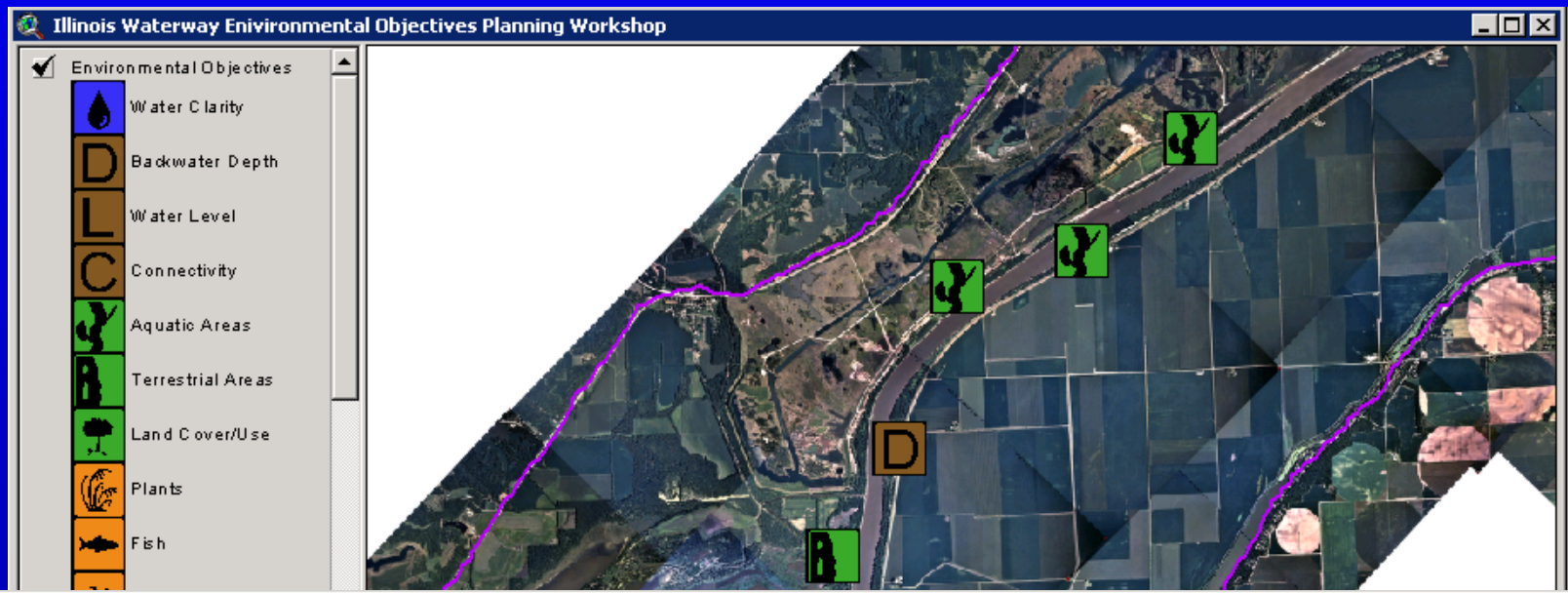
# Framework for Setting Objectives



| Ecosystem Element | Parameter | Extent | TR | Target Range |
|---|---|---|---|---|
| **Pattern of Habitats** | Aquatic Areas | Main Channel | 1 | <10% of area |
| | | Secondary Channel | 2 | 10-20% of area |
| | | Tertiary Channel | 3 | 20-40% of area |
| | | Impounded Area | 4 | 40-60% of area |
| | | Contiguous Backwater | 5 | >60% of area |
| | | Isolated Backwater | | |
| | Terrestrial Areas | Contiguous Floodplain | 1 | <10% of area |
| | | Isolated Floodplain | 2 | 10-20% of area |
| | | Island | 3 | 20-40% of area |
| | | | 4 | 40-60% of area |
| | | | 5 | >60% of area |
| | Land Cover/Use | Open Water | 1 | <10% of area |
| | | Submersed Aquatics | 2 | 10-20% of area |
| | | Emergent Aquatics | 3 | 20-40% of area |
| | | Grassland | 4 | 40-60% of area |
| | | Shrub | 5 | >60% of area |
| | | Forest | | |
| | | Agriculture | | |
| | | Developed | | |
| **Plants and Animals** | Plants | Emergent Aquatics | 1 | <10 plants/m2 |
| | | Submersed Aquatics | 2 | 10 - 20 plants/m2 |
| | | | 3 | 20 - 50 plants/m2 |
| | | | 4 | 50 - 100 plants/m2 |
| | | | 5 | >100 plants/m2 |
| | Fish | Protected Fish Species | | CPUE, Length distribution, or kg/ha |
| | | Sport Fish Species | | |
| | | Commercial Fish Species | | |
| | | Forage Fish Species | | |
| | | Exotic Fish Species | | |
| | Birds | Dabbling Ducks | 1 | 0 - 1,000 use days/yr |
| | | Diving Ducks | 2 | 1,000 - 10,000 use days/yr |
| | | | 3 | 10,000 - 100,000 use days/yr |
| | | | 4 | >100,000 use days/yr |

# Environmental Objectives Database

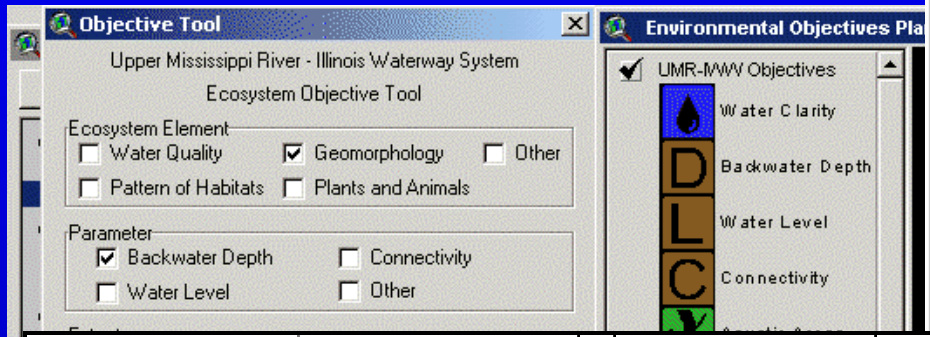


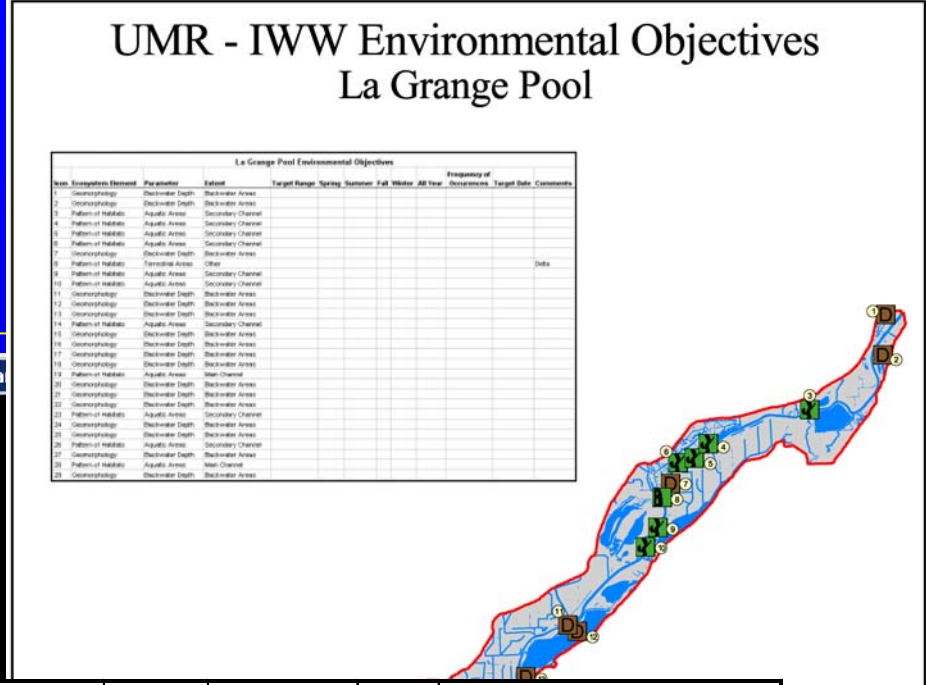



Attributes of Environmental Objectives

| Ecosystem Element | Parameter | Extent | Tr | Target Range | Spring | Summe | Fall | Winter | All Yea | Frequency | Target Date | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pattern of Habitats | Aquatic Areas | Secondary Channel | 0 | | | | | | | 0 | 0 | |
| Pattern of Habitats | Aquatic Areas | Secondary Channel | 0 | | | | | | | 0 | 0 | |
| Pattern of Habitats | Aquatic Areas | Secondary Channel | 0 | | | | | | | 0 | 0 | |
| Geomorphology | Backwater Depth | Backwater Areas | 0 | | | | | | | 0 | 0 | |
| Pattern of Habitats | Terrestrial Areas | Other | 0 | | | | | | | 0 | 0 | Delta |
| Pattern of Habitats | Aquatic Areas | Impounded Area | 0 | | | | | | | 0 | 0 | |
| Pattern of Habitats | Aquatic Areas | Impounded Area | 0 | | | | | | | 0 | 0 | |
| Pattern of Habitats | Aquatic Areas | Impounded Area | 0 | | | | | | | 0 | 0 | |
| Pattern of Habitats | Aquatic Areas | Impounded Area | 0 | | | | | | | 0 | 0 | |
| Pattern of Habitats | Aquatic Areas | Main Channel | 0 | | | | | | | 0 | 0 | |
| Pattern of Habitats | Aquatic Areas | Main Channel | 0 | | | | | | | 0 | 0 | |

# Review and Identify Env. Objectives




| Ecosystem Element/ Parameter | Extent | ID | Location | TR/ Target Range | Season | Frequency of Occurrence | Target Date | Comments |
|---|---|---|---|---|---|---|---|---|
| **Water Quality** | | | | | | | | |
| *Comments/ Additions:* | | | | | | | | |
| *Dissolved Oxygen* | *Backwater Areas* | | *RM 103, Stewart Lake* | *5 PPM* | *All* | *10* | *2007* | *Address northern part of lake.* |
| | | | | | | | | |
| **Geomorphology** | | | | | | | | |
| Backwater Depth | Backwater Areas | 7 | *RM 138.5* | *TR= 2* | *All* | *10* | *2010* | |
| *Comments/ Additions:* | | | | | | | | |
| *Water Level* | *Backwater Areas* | | *Rice Lake Conservation Area* | *TR = 3* | *Summer* | *3* | *2006* | *Will impact about 1,000 acres.* |
| | | | | | | | | |

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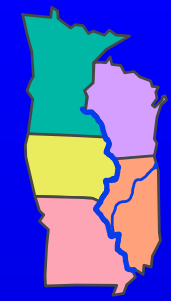
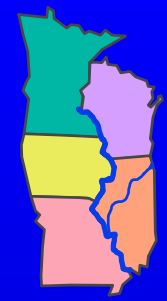
# Environmental Workshop
# Env. Objective Results



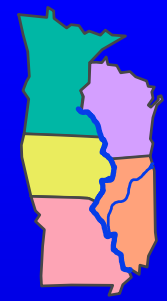
- Pool-wide and site-specific environmental objectives were discussed
- 2100 site-specific objectives were reviewed
- Over 500 new site-specific objectives identified
- Quantitative target ranges were usually noted with pool-wide objectives

# Environmental Workshop
# Peoria Objectives



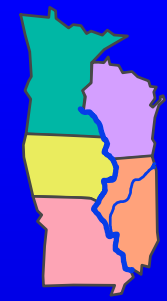
- Maintain 50% of currently isolated backwaters for exclusion of exotics and protection of high quality habitat.
- Recreate the natural hydrograph.
- Regulate and develop environmentally friendly fleeting areas.
- Remove sunken and abandoned barges.

# Environmental Workshop
# St. Louis Objectives



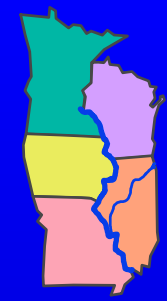
- Open river is sediment starved. So, allow river to be more dynamic. Allow to meander.
- Restore floodplain habitat.
- Restore-maintain riparian corridor to provide a broad base range of benefits.
- Implement side channel and dike alteration plans.

# Environmental Workshop
# La Crosse Objectives



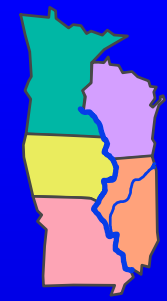
- Reduce Connectivity.
- Increase water levels for overwintering habitat.
- Improve urban stormwater runoff water quality.
- Develop early warning system for contaminant spills.
- Include St. Croix in planning because it is part of the authorized navigation system.

# Environmental Workshop
# Moline Objectives



- Provide blocks of habitat for species corridors.
- Reduce erosion and habitat loss due to barge fleeting.
- Restore islands in all pools to provide protection from wind fetch.
- Secchi depth of 1 m during high water event for 5 out of 10 years.

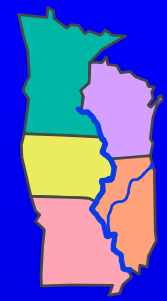
# Environmental Workshop Management Actions



**Purpose:** Review and identify management actions that are most likely to contribute towards achieving the established goals and objectives.

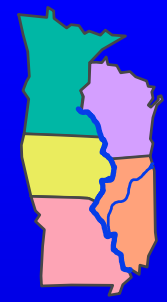
**Definition:** Regulatory, operational or structural tools or activities that can be implemented to positively address the environmental objectives (e.g. hydraulically dredge a backwater area).

# Environmental Workshop Management Actions



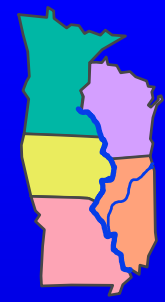
- Background:
  - Management Actions were derived from UMRS resource managers, engineers, scientists, and others.
  - Management Actions will be linked with objectives to formulate environmental alternative plans.

# Environmental Workshop Management Actions



| Geomorphology | Water Level | Main Channel | Growing season drawdowns |
|---|---|---|---|
| | | | Water control decision-making |
| | | | Directions to lockmasters |
| | | | Dam gate operation |
| | | | Higher, slight pulsing of winter water levels |
| | | | Lower early summer water levels to strand carp eggs |
| | | | Acquire real estate rights, modify regulation of Pools 24,25,26 |
| | | | Drawdowns to consolidate sediment |
| | | | Build dam gates, naturalize hydrologic regime IL River |
| | | | Manage water levels |
| | | | Growing season pool drawdowns to reestablish vegetation |
| | | | Small scale drawdown of floodplain lakes for vegetation |
| | | | Introduce flow to isolated backwater areas |
| | | | Restore flow to secondary channels |
| | | | Restore flow to floodplain areas isolated by levees |

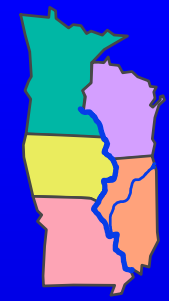
# Species and Population Parameters



- Purpose: To identify plant and animal species and appropriate units of measure that should be considered for future environmental objectives planning efforts.

- Results:
- Abundance estimates are unnecessary at large scales
- Develop community indices (i.e., IBI, diversity, etc…)
- Focus on project areas (pre and post project)
- Focus on T&E organisms, representative, or exotic organisms
- Use existing data from many sources (LTRM, States, Audubon)
- Establish baseline or reference conditions
- Use HEP, WHAG, AHAG and other metrics
- Focus on physical attributes

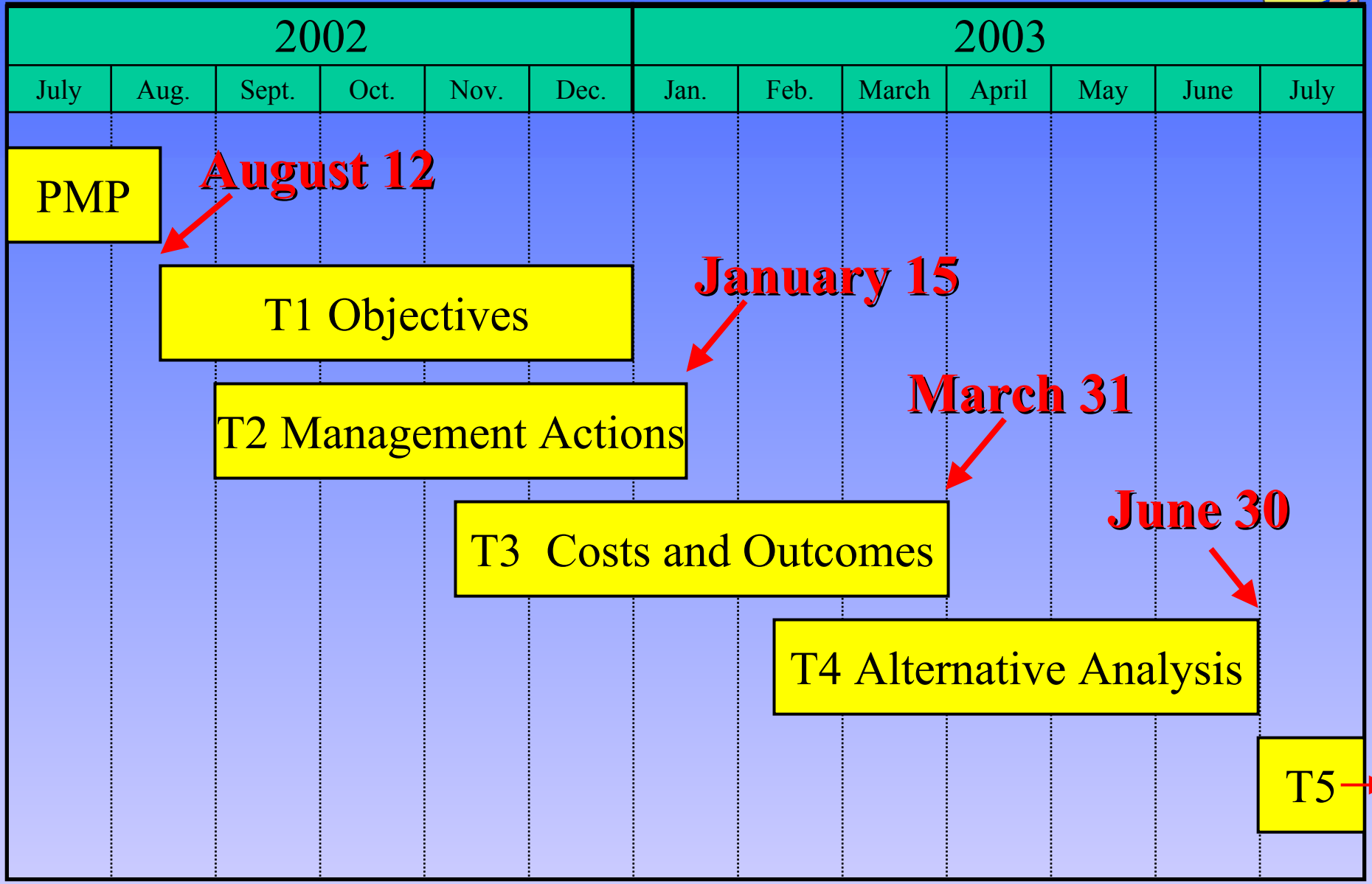
# Environmental Workshop Product Schedule



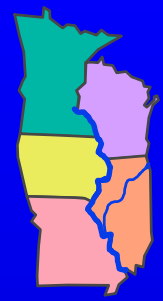
- DRAFT Workshop Reports – Dec 02
- Objective Database – Dec 02
- FINAL Workshop Reports – Jan 03
- DRAFT Green Report integrating the results from all four workshops – Jan 03

# Study Schedule

## Process for Establishing Environmental Sustainability



# Navigation Study Flowchart



## Nav. Improvement Effects

UMR-IWW Navigation Improvement/ Environmental Effects

Monitoring and Analysis (bank erosion, fish entrainment,etc.) **Jan 03**

Site-specific and System Impacts **Jan 03**

Without-project Traffic Effects **Jan-Mar 03**

With-project traffic effects **Mar-June 03**

Cumulative impacts **June 03**

## Effects of Nav. O&M

Examine UMR-IWW navigation O&M environmental effects **Started Aug 01**

Water level control
Fleeting
Channel maintenance
Fish passage
Trust species
Exotics
**Aug 01-June 03**

## Env. Sustainability

UMR-IWW Environmental Objectives **Oct-Dec 02**

Are Objectives related to the Navigation System? **Dec 02**

**No**

**Yes**

Identify Management Actions **Nov 02-Jan 03**

Establish Costs and Expected Outcomes **Jan-Mar 03**

NER analysis on selected environmental alternative plans (multiple actions) **Mar-June 03**

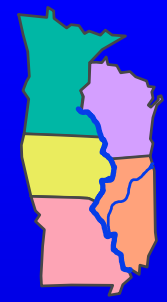
## Implementation Issues

UMR-IWW Institutional Arrangements and Authorities **Started Mar 02**

Identify proper authority/ agency (e.g., EMP, Comp. Study, FWS CCP, USDA) to move forward with objective outside of the Navigation System **Jan-Feb 03**

# June 2003

# Navigation Study Flowchart



**Economic** **Environmental** **Social**

Mitigation, integration, and tradeoff analysis on Nav. and Env. alternative plans **July-Aug 03**

Develop institutional arrangement implementation plan **July-Dec 03**

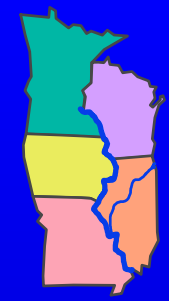
Integrated alternative plans with potential outcomes **Sept 03**

Sort management actions (within alternative plans) into cost-share baskets **Oct-Dec 03**

DRAFT Navigation Feasibility Study Report (With preliminary Recommended Plan) **Jan 04**

FINAL Navigation Feasibility Study Report (With final Recommended Plan) **Aug 04**

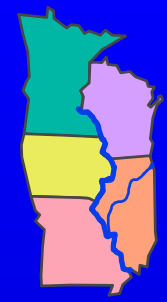
# Navigation System
# Zone of Potential Impact



- UMR-IWW main channel corridor extending landward ¼ mile past the railroad grade or principal meander belt levee
- Publicly owned sloughs in levied drainage districts where water levels are controlled
- USACE General Plan lands
- Does not include the crest of bluffs

# Attachment C

# Environmental Component Flowchart



## Effects of Nav. O&M

Examine UMR-IWW navigation O&M environmental effects
**Started Aug 01**

Water level control
Fleeting
Channel maintenance
Fish passage
Trust species
Exotics
**June 03**

## Nav. Improvement Effects

UMR-IWW Navigation Improvement/ Environmental Effects

Monitoring and Analysis (bank erosion/fish entrainment) **Jan 03**

Site-specific and System Impacts **Jan 03**

Without-project Traffic Effects **Jan-Mar 03**

With-project traffic effects
**Mar-June 03**

Cumulative impacts
**June 03**

## Env. Sustainability

UMR-IWW Environmental Objectives
**Oct-Dec 02**

Navigation System Objectives?
**Dec 02**

No

Yes

Identify Management Actions **Nov 02-Jan 03**

Establish Costs and Expected Outcomes
**Jan-Mar 03**

NER analysis on selected environmental alternative plans (multiple actions)
**Mar-June 03**

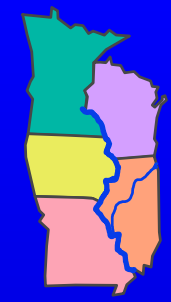
## Implementation Issues

UMR-IWW Institutional Arrangements and Authorities
**Started June 02**

Identify proper authority/ agency (e.g., EMP, Comp. Study, FWS CCP, USDA)
**Jan-Feb 03**

# June 2003

# Environmental Component Flowchart



Economic

Environmental

Social

Mitigation, integration, and tradeoff analysis on Nav. and Env. alternative plans **July-Aug 03**

Integrated alternative plans with potential outcomes **Sept 03**

Develop institutional arrangement implementation plan **July-Dec 03**

Sort management actions (within alternative plans) into cost-share baskets **Oct-Dec 03**

DRAFT Navigation Feasibility Study Report **Jan 04**

FINAL Navigation Feasibility Study Report **Aug 04**